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441 to residue 676 as set forth in SEQ ID NO:2, wherein the polypeptide catalyzes oxidation of o-dianisidine (ODA) when complexed with a vanadium ion, and has no more than about 600 amino acids in length.

REMARKS

I. The Invention

The present invention relates to recombinant vanadium haloperoxidases that comprise an amino acid sequence with at least 90% sequence identity to the 441-676 segment of SEQ ID NO: 2 and are capable of catalyzing oxidation of o-dianisidine (ODA) when complexed with a vanadium ion. These polypeptides are no more than about 600 amino acids in length.

II. Status of the Claims

After entry of the present amendment, claims 16, 17, and 20-30 are pending. The limitation of "no more than about 600 amino acids in length," which is being added to claim 16, finds support in the specification, e.g., on page 4, lines 24-26. No new matter is introduced.

III. The Rejections

A. 35 USC §112 First Paragraph

The Examiner rejected claims 22-27 under 35 USC 112 first paragraph for alleged inadequate written description and lack of enablement. The specification allegedly failed to teach how to immobilize the claimed polypeptides, or where and how to add an epitope tag, a thioredoxin sequence, or an enterokinase cleavable linker to the claimed polypeptides while retaining the enzymatic activity. Applicants respectfully traverse the rejections.

1. Written Description Rejections

There is a strong presumption that an adequate written description of the claimed invention is present when the application is filed. The Examiner carries the initial burden to show why a person skilled in the art would not recognize in the